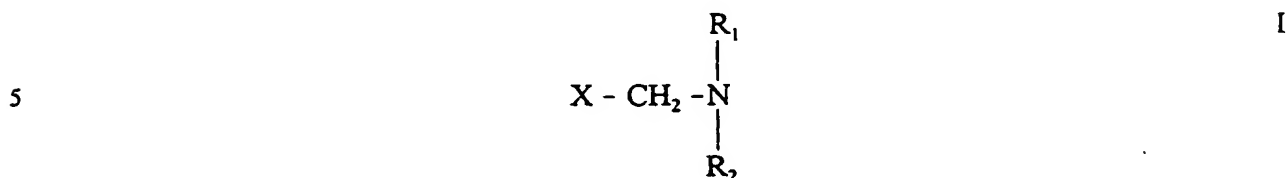
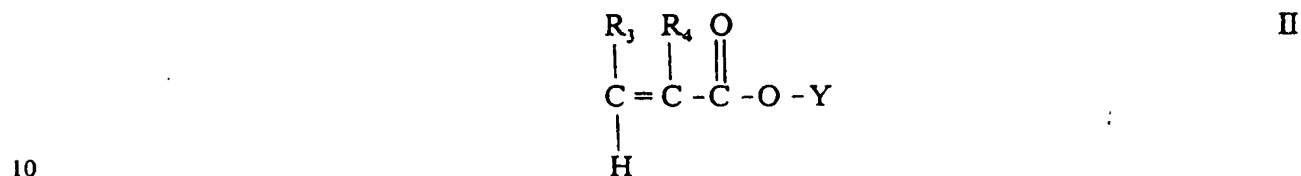


CLAIMS:

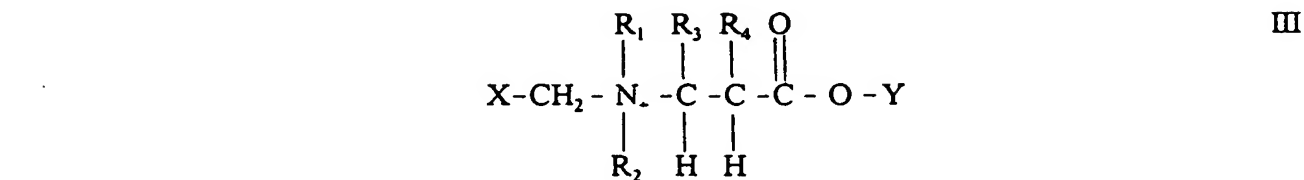
1. A method of preparing a chloride free amphoteric surfactant comprising reacting an amine having the general formula:



with a carbonyl compound having the formula:



to produce an amphoteric surfactant having the formula:



wherein X is a hydrocarbyl group containing from 2 to 36 carbon atoms, which can be optionally substituted with functional groups, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are

independently hydrogen or a hydrocarbyl group containing from 1 to 4 carbon atoms and Y is hydrogen or a hydrocarbyl group containing from 1 to 4 carbon atoms wherein any of R<sub>1</sub> R<sub>2</sub> R<sub>3</sub> R<sub>4</sub> and Y can be optionally substituted with functional groups, and wherein said reaction is carried out in the substantial absence of any chloride containing compound.

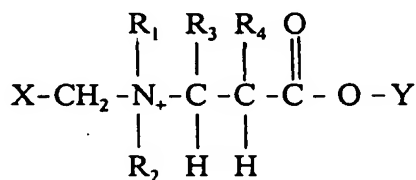
2. The method of Claim 1 wherein said reaction is conducted at a temperature of between 10° and 150° C.

3. The method of Claim 1 wherein said reaction is conducted in a solvent system.

4. The method of Claim 3 wherein said solvent system is selected from the group consisting of water, alcohols, glycols, glycol ethers and mixtures thereof.

5. The method of Claim 1 wherein said reaction is conducted in the presence of an alkali metal hydroxide catalyst.

6. A chloride free amphoteric surfactant having the formula:



III

wherein X is a hydrocarbyl group containing from 2 to 36 carbon atoms, which can be optionally substituted with functional groups,  $R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$  are independently hydrogen or a hydrocarbyl group containing from 1 to 4 carbon atoms and Y is hydrogen or a hydrocarbyl group containing from 1 to 4 carbon atoms wherein any of  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$  and Y can be optionally substituted with functional groups, said surfactant being free of any significant amount of chloride containing compounds.

7. A method of treating a gas well comprising:

introducing into said well an aqueous mixture comprising an effective amount of the composition of Claim 6.

8. The method of Claim 7 wherein the weight ratio of amphoteric surfactant to water in said aqueous mixture is from about 4 to 1 to about 10 to 1.